<u>IN THE CLAIMS:</u>

Please amend the claims to read as follows. Note that all claims currently pending in this application including those presently being amended, have been reproduced below for the Examiners convenience. A marked-up copy showing the changes made to the claims is attached as an appendix.

1. (Twice Amended) A coordinates correction apparatus comprising:

coordinate input means being placed on a display;

display control means for controlling display of a plurality of reference points on the display, the reference points indicating positions for user-designated coordinates on the coordinate input means;

coordinates reception means for receiving coordinates designated for the plurality of displayed reference points by user via said coordinate input means;

parameter calculation means for calculating coordinates correction parameters for nonlinear conversion, based on the received coordinates;

parameter keeping means for keeping the calculated coordinates correction parameters for nonlinear conversion; and

coordinates correction means for correcting the coordinates inputted via said coordinates input means by the nonlinear conversion using the coordinates correction parameters kept by the parameter keeping means.

2.   (Unamended From Previous Version) The coordinates correction apparatus of Claim 1, wherein the coordinates correction parameters are a, b, c, d, e, f, g, and h and wherein the nonlinear conversion for correcting the coordinates (x, y) inputted via the coordinates input means to corrected coordinates (X, Y) is expressed by:

$$X = axy + bx + cy + d$$

$$Y = exy + fx + gy + h.$$

4.   (Unamended From Previous Version) The coordinates correction apparatus of Claim 1, further comprising a coordinates output means for outputting the coordinates corrected by the coordinates correction means.

7.   (Unamended From Previous Version) The coordinates correction apparatus of Claim 1, wherein the parameter calculation means discriminates that the received coordinates is which of the plurality reference points, and calculates the coordinates correction parameters for the nonlinear conversion based on the discriminated coordinates.

8.   (Unamended From Previous Version) The coordinates correction apparatus of Claim 1, wherein the parameter calculation means calculates the coordinates correction parameters by solving simultaneous equations based on the received coordinates corresponding to the plurality of displayed reference points.

9.   (Unamended From Previous Version) The coordinates correction apparatus of Claim 1, wherein said display is a liquid crystal display.

10.   (Unamended From Previous Version) The coordinates correction apparatus of Claim 1, wherein the plurality of displayed reference points is four reference points expressed in pairs of two x coordinates and two y coordinates in an xy rectangular coordinates system.

11.   (Unamended From Previous Version) The coordinates correction apparatus of Claim 10, wherein the parameter calculation means calculates the coordinates correction parameters a, b, c, d, e, f, g, and h by solving the following formulas where the coordinates of the four reference points as (X_0, Y_0), (X_1, Y_0), (X_0, Y_1), and (X_1, Y_1), setting the received coordinates as (x_{nw}, y_{nw}), (x_{ne}, y_{ne}), (x_{sw}, y_{sw}), and (x_{se}, y_{se});

$$X_0 = ax_{nw}y_{nw} + bx_{nw} + cy_{nw} + d$$

$$Y_0 = ex_{nw}y_{nw} + fx_{nw} + gy_{nw} + h$$

$$X_1 = ax_{ne}y_{ne} + bx_{ne} + cy_{ne} + d$$

$$Y_0 = ex_{ne}y_{ne} + fx_{ne} + gy_{ne} + h$$

$$X_0 = ax_{sw}y_{sw} + bx_{sw} + cy_{sw} + d$$

$$Y_1 = ex_{sw}y_{sw} + fx_{sw} + gy_{sw} + h$$

$$X_1 = ax_{se}y_{se} + bx_{se} + cy_{se} + d$$

$$Y_1 = ex_{se}y_{se} + fx_{se} + gy_{se} + h_1$$

wherein the parameter keeping means keeps the calculated coordinates correction parameters a, b, c, d, e, f, g, and h, and

wherein the coordinates correction means corrects the coordinates inputted via said coordinate input means (x, y) to corrected coordinates (X, Y) by the nonlinear conversion

$$X = axy + bx + cy + d$$

$$Y = exy + fx + gy + h.$$

12.   (Unamended From Previous Version) The coordinates correction apparatus of Claim 1, further comprising a deciding means for deciding that the calculation of the coordinate correction parameters by said display control means, said coordinates reception means and said parameter calculation means is executed if said parameter keeping means does not keep the coordinates correction parameters.

13.   (Unamended From Previous Version) The coordinates correction apparatus of Claims 1, wherein the coordinates correction apparatus is a portable information processing apparatus.

14.   (Unamended From Previous Version) The coordinates correction apparatus of Claims 1, wherein the coordinates correction apparatus can be connected to a network.

22.   (Twice Amended) A coordinates correction method for controlling a coordinates correction apparatus which has a coordinate input means placed on a display, the method comprising:

controlling display of a plurality of reference points on the display, the reference points indicating positions for user-designated coordinates on the coordinate input means;

receiving coordinates designated for the plurality of displayed reference points by user via said coordinate input means;

calculating coordinates correction parameters for nonlinear conversion, based on the received coordinates;

keeping the calculated coordinates correction parameters for nonlinear conversion; and

correcting the coordinates inputted in the coordinate input step by the nonlinear conversion using the kept coordinates correction parameters.

23.   (Unamended From Previous Version) The coordinates correction method of Claim 22, wherein the coordinates correction parameters are a, b, c, d, e, f, g,

and h, and wherein the nonlinear conversion for correcting the coordinates (x, y) inputted via the coordinates input step to the corrected coordinates (X, Y) in said coordinates correction step is represented by

$$X = axy + bx + cy + d$$

$$Y = exy + f x + gy + h.$$

25. (Unamended From Previous Version) The coordinates correction method of Claim 22, further comprising a coordinates output step of outputting the coordinates corrected in the coordinates correction step.

28. (Unamended From Previous Version) The coordinates correction method of Claim 22, wherein the parameter calculation step discriminates that the received coordinates is which of the plurality reference points, and calculates the coordinates correction parameters for the nonlinear conversion based on the discriminated coordinates.

29. (Unamended From Previous Version) The coordinates correction method of Claim 22, wherein the coordinates correction parameters are calculated in the parameter calculation step by solving simultaneous equations based on the received coordinates corresponding to the plurality of displayed reference points.

30.   (Unamended From Previous Version) The coordinates correction method of Claim 22, wherein said display is liquid crystal display.

31.   (Unamended From Previous Version) The coordinates correction method of Claim 22, wherein the plurality of displayed reference points is four reference points expressed in pairs of two x coordinates and two y coordinates in an xy rectangular coordinates system.

32.   (Unamended From Previous Version) The coordinates correction method of Claim 31, wherein coordinates correction parameters, a, b, c, d, e, f, g, and h, are calculated in the parameter calculation step by solving the following formulas where the coordinates of the four reference points as (X_0, Y_0), (X_1, Y_0), (X_0, Y_1), and (X_1, Y_1), setting the received coordinates as

(x_{nw}, y_{nw}), (x_{ne}, y_{ne}), (x_{sw}, y_{sw}), and (x_{se}, y_{se}):

$$X_0 = ax_{nw}y_{nw} + bx_{nw} + cy_{nw} + d$$

$$Y_0 = ex_{nw}y_{nw} + fx_{nw} + gy_{nw} + h$$

$$X_1 = ax_{ne}y_{ne} + bx_{ne} + cy_{ne} + d$$

$$Y_0 = ex_{ne}y_{ne} + fx_{ne} + gy_{ne} + h$$

$$X_0 = ax_{sw}y_{sw} + bx_{sw} + cy_{sw} + d$$

$$Y_1 = ex_{sw}y_{sw} + fx_{sw} + gy_{sw} + h$$

$$X_1 = ax_{se}y_{se} + bx_{se} + cy_{se} + d$$

$$Y_1 = ex_{se}y_{se} + fx_{se} + gy_{se} + h,$$

wherein the calculated coordinates correction parameters are kept in the

parameter keeping step, and

wherein the coordinates inputted via said coordinate input step (x, y) are

corrected to corrected coordinates (X, Y) in the coordinates correction steps by the

nonlinear conversion

$$X = axy + bx + cy + d$$

$$Y = exy + fx + gy + h.$$

33.   (Unamended From Previous Version) The coordinates correction

method of Claim 22, further comprising a deciding step of deciding that the calculation of

the coordinate correction parameters by said display controlling step, said coordinates

receiving step, and said parameter calculation step is executed if said keeping step does not

keep the coordinates correction parameters.

34.   (Unamended From Previous Version) The coordinates correction

method of Claims 22 which is a coordinates correction method for controlling a portable

information processing apparatus.

42.   (Twice Amended) A computer readable memory medium for storing a coordinates correction control program for controlling a coordinates correction apparatus which has a coordinate input means placed on a display, the program comprising:

code to control display of a plurality of reference points on the display, the reference points indicating positions for user-designated coordinates on the coordinate input means;

code to receive coordinates designated for the plurality of displayed reference points by user via said coordinate input means;

code to calculate coordinates correction parameters for nonlinear conversion, based on the received coordinates;

code to keep the calculated coordinates correction parameters for nonlinear conversion; and

code to correct the coordinates inputted in the coordinate input step by the nonlinear conversion using the kept coordinates correction parameters.

43.   (Unamended From Previous Version) The computer readable memory medium of Claim 42, wherein the coordinates correction parameters are a, b, c, d, e, f, g, and h, and wherein the nonlinear conversion for correcting the coordinates (x, y) inputted via the coordinates input step to the corrected coordinates (X, Y) in said coordinates correction step is represented by

$$X = axy + bx + cy + d$$

$$Y = exy + fx + gy + h.$$

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45.   (Unamended From Previous Version) The computer readable memory medium for storing a coordinates correction control program of Claim 42, further comprising a coordinates output step of outputting coordinates corrected in the coordinates correction step.

48.   (Unamended From Previous Version) The computer readable memory medium for storing a coordinates correction control program of Claim 42, wherein the parameter calculation step discriminates that the received coordinates is which of the plurality reference points, and calculates the coordinates correction parameters for the nonlinear conversion based on the discriminated coordinates.

49.   (Unamended From Previous Version) The memory medium that can be read by a computer storing a coordinates correction control program of Claim 42, wherein the coordinates correction parameters are calculated in the parameter calculation step by solving simultaneous equations based on the received coordinates corresponding to the plurality of displayed reference points.

50.   (Unamended From Previous Version) The memory medium that can be read by a computer storing a coordinates correction control program of Claim 42, wherein said display is liquid crystal display.

51. (Unamended From Previous Version) The memory medium that can be read by a computer storing a coordinates correction control program of Claim 42, wherein the plurality of displayed reference points is four reference points expressed in pairs of two x coordinates and two y coordinates in an xy rectangular coordinates system.

52. (Unamended From Previous Version) The memory medium that can be read by a computer storing a coordinates correction control program of Claim 51, wherein coordinates correction parameters, a, b, c, d, e, f, g, and h, are calculated in the parameter calculation step by solving the following formulas where the coordinates of the four reference points as (X_0, Y_0), (X_1, Y_0), (X_0, Y_1), and (X_1, Y_1), setting the received coordinates as (x_{nw}, y_{nw}), (x_{ne}, y_{ne}), (x_{sw}, y_{sw}), and (x_{se}, y_{se}):

$$X_0 = ax_{nw}y_{nw} + bx_{nw} + cy_{nw} + d$$

$$Y_0 = ex_{nw}y_{nw} + fx_{nw} + gy_{nw} + h$$

$$X_1 = ax_{ne}y_{ne} + bx_{ne} + cy_{ne} + d$$

$$Y_0 = ex_{ne}y_{ne} + fx_{ne} + gy_{ne} + h$$

$$X_0 = ax_{sw}y_{sw} + bx_{sw} + cy_{sw} + d$$

$$Y_1 = ex_{sw}y_{sw} + fx_{sw} + gy_{sw} + h$$

$$X_1 = ax_{se}y_{se} + bx_{se} + cy_{se} + d$$

$$Y_1 = ex_{se}y_{se} + fx_{se} + gy_{se} + h,$$

wherein the calculated coordinates correction parameters are kept in the parameter keeping step, and

wherein the coordinates inputted via said coordinate input step (x, y) are

corrected to corrected coordinates (X, Y) in the coordinates correction steps by the

nonlinear conversion

$$X = axy + bx + cy + d$$

$$Y = exy + fx + gy + h.$$

53. (Unamended From Previous Version) The computer readable

memory medium for storing a coordinates correction control program of Claim 42, further

comprising a deciding step of deciding that the calculation of the coordinate correction

parameters by said display controlling step, said coordinates receiving step, and said

parameter calculation step is executed if said keeping step does not keep the coordinates

correction parameters.

54. (Unamended From Previous Version) The computer readable

memory medium for storing a coordinates correction control program of Claims 42, which

is a coordinates correction program for controlling a portable information processing

apparatus.